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Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Final Examination, Semester: Fall 2021

Course Code: CSE122, Course Title: Programming and Problem Solving

Section: All Instructor: All

Two hours (2:00) **Full Marks: 40**

1. The following code generates errors. List the reasons? Modify the code and rewrite the corrected one. **2 x 5=10**

a)

```
int main(){
int  i;

for(i=1; i<=10; i+){
  if(i/2=0)
     printf("\n Index %d",i);
     printf("\n %d is Even",i);
  else
     printf("\n Index %d",i);
     printf("\n %d is Odd",i);
  }
 return 0;
}
```

b) You asked to write a program that will find the sum marks of 10 students using arrays. One student come up with the following solution, your task is to find out the errors in this program.

```
int main(){
  int marks[10],i, sum;
  for(i=0;i<=10;i++){
    printf("Enter mark:");
    scanf("%d", marks[i]);
    sum =sum+marks[];
    }
    printf("Sum= %d", marks);
  return 0;
}
```

2. Write a full C Program for each of the following problems: **6 x 5=30**

a) Let us start with an easy problem to start this Section! Write a C program that Calculate and display the average and sum of three numbers A, B and C. Notes: value for A, B and C will be the input from the user.

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b) Create a C structure Scientist to hold the following items:
- Name of the Scientist: Can be at max 10 characters (i.e. Albert Einstein)
- Age of the Scientist: A float value(i.e. 78.5)
- Number of Publications: An integer value (i.e. 53)

Now declare "sntst1" and "sntst2" of the struct Scientist type and assign some imaginary value to those variables and print out those values.

c) Take a String from user as input and print that string in reverse.

Sample Input: DIU CSE
Sample Output: ESC UID

d) There is a function named **fun** who takes an integer number ***n*** as input and print all the number in the range of 1 to ***n***. Now write a complete c program including fun and main function.

Sample Input: 7
Sample Output: 1 2 3 4 5 6 7

e) Take 5 inputs from the user and store them in a integer type single dimensional array x[ ] of size 5 and do the summation of all the **odd** elements of the array.

Sample Input: 3 4 1 9 8
Sample Output: 13

f) Write a C program that will read a string and print the number of lower case vowels and consonants in it.

Sample Input: I See Fire
Sample Output: 4 vowels and 1 consonant

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